**Active Online Learning for Social Media Analysis to Support Crisis Management**

**Abstract:**

People use social media (SM) to describe and discuss different situations they are involved in, like crises. It is thereforeworthwhile to exploit SM contents to support crisis management, in particular by revealing useful and unknown information aboutthe crises in real-time. Hence, we propose a novel active online multiple-prototype classifier, called AOMPC. It identifies relevantdata related to a crisis. AOMPC is an online learning algorithm that operates on data streams and which is equipped with activelearning mechanisms to actively query the label of ambiguous unlabeled data. The number of queries is controlled by a fixedbudget strategy. Typically, AOMPC accommodates partly labeled data streams. AOMPC was evaluated using two types of data:(1) synthetic data and (2) SM data from Twitter related to two crises, Colorado Floods and Australia Bushfires. To provide athorough evaluation, a whole set of known metrics was used to study the quality of the results. Moreover, a sensitivity analysiswas conducted to show the effect of AOMPC’s parameters on the accuracy of the results. A comparative study of AOMPC againstother available online learning algorithms was performed. The experiments showed very good behavior of AOMPC for dealingwith evolving, partly-labeled data streams.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium Dual Core.
* Hard Disk : 120 GB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 1 GB

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/UBUNTU.
* Implementation : NS2
* NS2 Version : 2.28
* Front End : OTCL (Object Oriented Tool Command  Language)
* Tool : Cygwin (To simulate in Windows OS)